



MM	MM	TTTTTTTTTT	HH	HH	DDDDDDDD		IIIIII	NN	NN	TTTTTTTTTT
MM	MM	TTTTTTTTTT	HH	HH	DDDDDDDD	DD	IIIIII	NN	NN	TT
MMMM	MMMM	TT	HH	HH	DD	DD	II	NN	NN	TT
MMMM	MMMM	TT	HH	HH	DD	DD	II	NNNN	NN	TT
MM	MM	TT	HH	HH	DD	DD	II	NNNN	NN	TT
MM	MM	TT	HHHHHHHHHH	DD	DD	DD	II	NN	NN	TT
MM	MM	TT	HHHHHHHHHH	DD	DD	DD	II	NN	NN	TT
MM	MM	TT	HH	HH	DD	DD	II	NN	NNNN	TT
MM	MM	TT	HH	HH	DD	DD	II	NN	NNNN	TT
MM	MM	TT	HH	HH	DD	DD	II	NN	NNNN	TT
MM	MM	TT	HH	HH	DD	DD	II	NN	NN	TT
MM	MM	TT	HH	HH	DD	DD	II	NN	NN	TT
MM	MM	TT	HH	HH	DD	DD	II	NN	NN	TT
MM	MM	TT	HH	HH	DD	DD	II	NN	NN	TT
MM	MM	TT	HH	HH	DD	DD	II	NN	NN	TT
LL		IIIIII	SSSSSSSS							
LL		IIIIII	SSSSSSSS							
LL		IIIIII	SS							
LL		IIIIII	SS							
LL		IIIIII	SS							
LL		IIIIII	SSSSSS							
LL		IIIIII	SSSSSS							
LL		IIIIII	SS							
LL		IIIIII	SS							
LL		IIIIII	SS							
LLLLLLLL	LLLLLLLL	IIIIII	SSSSSSSS							
LLLLLLLL	LLLLLLLL	IIIIII	SSSSSSSS							

(2)	47	HISTORY	; Detailed Current Edit History
(3)	62	DECLARATIONS	
(4)	90	MTH\$DINT	Double to Double truncation
(5)	133	MTH\$DINT_R4	JSB entry point

0000 1 .TITLE MTH\$DINT - FLOATING TRUNCATION  
0000 2 .IDENT /1-005/ ; File: MTHDINT.MAR Edit: JBS1005  
0000 3 \*\*\*\*\*  
0000 4 \*  
0000 5 \* COPYRIGHT (c) 1978, 1980, 1982, 1984 BY  
0000 6 \* DIGITAL EQUIPMENT CORPORATION, MAYNARD, MASSACHUSETTS.  
0000 7 \* ALL RIGHTS RESERVED.  
0000 8 \*  
0000 9 \* THIS SOFTWARE IS FURNISHED UNDER A LICENSE AND MAY BE USED AND COPIED  
0000 10 \* ONLY IN ACCORDANCE WITH THE TERMS OF SUCH LICENSE AND WITH THE  
0000 11 \* INCLUSION OF THE ABOVE COPYRIGHT NOTICE. THIS SOFTWARE OR ANY OTHER  
0000 12 \* COPIES THEREOF MAY NOT BE PROVIDED OR OTHERWISE MADE AVAILABLE TO ANY  
0000 13 \* OTHER PERSON. NO TITLE TO AND OWNERSHIP OF THE SOFTWARE IS HEREBY  
0000 14 \* TRANSFERRED.  
0000 15 \*  
0000 16 \*  
0000 17 \* THE INFORMATION IN THIS SOFTWARE IS SUBJECT TO CHANGE WITHOUT NOTICE  
0000 18 \* AND SHOULD NOT BE CONSTRUED AS A COMMITMENT BY DIGITAL EQUIPMENT  
0000 19 \* CORPORATION.  
0000 20 \*  
0000 21 \*  
0000 22 \* DIGITAL ASSUMES NO RESPONSIBILITY FOR THE USE OR RELIABILITY OF ITS  
0000 23 \* SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL.  
0000 24 \*  
0000 25 \*  
0000 26 \*\*\*\*\*  
0000 27  
0000 28  
0000 29 : FACILITY: MATH LIBRARY  
0000 30 :  
0000 31 : ABSTRACT:  
0000 32 : This module contains routine MTH\$DINT:  
0000 33 : Return truncated double-precision argument.  
0000 34 :  
0000 35 : VERSION: 0  
0000 36 :  
0000 37 : HISTORY:  
0000 38 :  
0000 39 : AUTHOR:  
0000 40 : Jonathan M. Taylor, 30-Jul-77: Version 0  
0000 41 :  
0000 42 : MODIFIED BY:  
0000 43 :  
0000 44 :  
0000 45 :

0000 47 .SBTTL HISTORY : Detailed Current Edit History  
0000 48  
0000 49  
0000 50 ; Edit History for Version 0 of MTH\$DINT  
0000 51  
0000 52 : 0-3 - Remove MTH\$FLAG\_JACKET. TNH 5-July-78  
0000 53 : 1-001 - Update version number and copyright notice. JBS 16-NOV-78  
0000 54 : 1-002 - Add "" to the PSECT directive. JBS 22-DEC-78  
0000 55 : 1-003 - Add a "JSB entry point. JBS 16-AUG-1979  
0000 56 : 1-004 - Fix MTH\$DINT\_R3 so that it disables IV. Add MTH\$DINT\_R4  
0000 57 : that does the same. SBL 26-Sept-1979  
0000 58 : 1-005 - Remove MTH\$DINT\_R3; all callers have converted to \_R4.  
0000 59 :  
0000 60 ;--

0000 62 .SBTTL DECLARATIONS  
0000 63  
0000 64  
0000 65 : INCLUDE FILES:  
0000 66  
0000 67 : NONE  
0000 68  
0000 69 : EXTERNAL SYMBOLS:  
0000 70  
0000 71 : NONE  
0000 72  
0000 73 : MACROS:  
0000 74  
0000 75 : \$PSLDEF ; PSL macros  
0000 76  
0000 77 : PSECT DECLARATIONS:  
00000000 78 : .PSECT \_MTH\$CODE PIC, SHR, LONG, EXE, NOWRT  
0000 79  
0000 80 : EQUATED SYMBOLS:  
0000 81  
0000 82  
0000 83 : NONE  
0000 84  
0000 85 : OWN STORAGE:  
0000 86  
0000 87 : NONE  
0000 88

0000 90 .SBTTL MTH\$DINT Double to Double truncation  
0000 91  
0000 92 :++  
0000 93 : FUNCTIONAL DESCRIPTION:  
0000 94  
0000 95 Returns the argument with all zeroes to the right of the decimal  
0000 96 point.  
0000 97  
0000 98 : CALLING SEQUENCE:  
0000 99  
0000 100 Truncation.wd.v = MTH\$DINT (arg.rd.r)  
0000 101  
0000 102 : INPUT PARAMETERS:  
0000 103  
0000 104 The one argument is a double-precision floating-point value  
0000 105 and is call-by-reference.  
0000 106  
0000 107 : IMPLICIT INPUTS:  
0000 108  
0000 109 NONE  
0000 110  
0000 111 : OUTPUT PARAMETERS:  
0000 112  
0000 113 NONE  
0000 114  
0000 115 : IMPLICIT OUTPUTS:  
0000 116  
0000 117 NONE  
0000 118  
0000 119 : COMPLETION CODES:  
0000 120  
0000 121 NONE  
0000 122  
0000 123 : SIDE EFFECTS:  
0000 124  
0000 125 Reserved Operand exception can occur.  
0000 126  
0000 127 --  
0000 128 .ENTRY MTH\$DINT ^M<>  
0000 129 EMODD @4(AP), #0, #1, R0, R0 : R0/R1 = fraction\_part(arg)  
0000 130 SUBD3 R0, @4(AP), R0 : R0/R1 = integer\_part(arg)  
0000 131 RET

50 50 08 00 04 BC 0000 0000  
50 04 BC 50 63 0009 04 000E

000F 133 .SBTTL MTH\$DINT\_R4 JSB entry point  
 000F 134  
 000F 135 :++  
 000F 136 : FUNCTIONAL DESCRIPTION:  
 000F 137  
 000F 138 Returns the argument with all zeroes to the right of the decimal  
 000F 139 point.  
 000F 140  
 000F 141 : CALLING SEQUENCE:  
 000F 142  
 000F 143 Truncation.wd.v = JSB MTH\$DINT\_R4 (arg.rd.v)  
 000F 144  
 000F 145 : INPUT PARAMETERS:  
 000F 146  
 000F 147 The one argument is a double-precision floating-point value  
 000F 148 and is call-by-reference.  
 000F 149  
 000F 150 : IMPLICIT INPUTS:  
 000F 151  
 000F 152 NONE  
 000F 153  
 000F 154 : OUTPUT PARAMETERS:  
 000F 155  
 000F 156 NONE  
 000F 157  
 000F 158 : IMPLICIT OUTPUTS:  
 000F 159  
 000F 160 NONE  
 000F 161  
 000F 162 : COMPLETION CODES:  
 000F 163  
 000F 164 NONE  
 000F 165  
 000F 166 : SIDE EFFECTS:  
 000F 167 Reserved Operand exception can occur.  
 000F 168  
 000F 169  
 000F 170 :--  
 000F 171  
 000F 172  
 000F 173 MTH\$DINT R4:: : R0/R1 = argument  
 52 52 08 00 54 DC 000F 174 MOVPSL R4 : Save the PSL  
 50 50 50 52 54 FFDF 20 B9 0011 175 BICPSW #PSL\$M\_IV : Disable IV  
 54 54 8F 52 54 0013 0019 001D 0022 0024 0025 0025 176 EMODD R0, #0, #1, R2, R2 : R2/R3 = fraction\_part(arg)  
 177 SUBD3 R2, R0, R0 : R0/R1 = integer\_part(arg)  
 178 BICW #^C<PSL\$M\_IV>, R4 : Clear all but PSL\$V\_IV bit  
 179 BISPSW R4 : Restore IV if set  
 180 RSB : Return to caller  
 181  
 182 .END

## MTHSDINT Symbol table

## - FLOATING TRUNCATION

B 7

16-SEP-1984 01:17:35 VAX/VMS Macro V04-00  
6-SEP-1984 11:22:12 [MTHRTL.SRC]MTHDINT.MAR;1

Page 6  
(5)

MTH\$DINT 00000000 RG 02  
MTH\$DINT\_R4 0000000F RG 02  
PSLSM\_IV = 00000020

## ! Psect synopsis !

**PSECT name**

Allocation	PSECT No.	Attributes
00000000	( 0.)	00 ( 0.) NOPIC USR CON ABS LCL NOSHR NOEXE NORD NOWRT NOVEC BYTE
00000000	( 0.)	01 ( 1:) NOPIC USR CON ABS LCL NOSHR EXE RD WRT NOVEC BYTE
00000025	( 37.)	02 ( 2:) PIC USR CON REL LCL SHR EXE RD NOWRT NOVEC LONG

## **! Performance indicators**

Phase	Page faults	CPU Time	Elapsed Time
Initialization	35	00:00:00.09	00:00:00.96
Command processing	135	00:00:00.47	00:00:02.37
Pass 1	113	00:00:01.06	00:00:04.62
Symbol table sort	0	00:00:00.03	00:00:00.05
Pass 2	46	00:00:00.44	00:00:01.77
Symbol table output	2	00:00:00.01	00:00:00.01
Psect synopsis output	3	00:00:00.03	00:00:00.06
Cross-reference output	0	00:00:00.00	00:00:00.00
Assembler run totals	336	00:00:02.14	00:00:09.85

The working set limit was 900 pages.

4031 bytes (8 pages) of virtual memory were used to buffer the intermediate code.  
There were 10 pages of symbol table space allocated to hold 41 non-local and 0 local symbols.  
182 source lines were read in Pass 1, producing 13 object records in Pass 2.  
8 pages of virtual memory were used to define 7 macros.

### Macro Library name

\$255\$DUA28:[SYSLIB]STARLET.MLB:2

98 GETS were required to define 4 macros.

There were no errors, warnings or information messages.

**MACRO/ENABLE=SUPPRESSION/DISABLE=(GLOBAL - TRACEBACK)/LIS=LIS\$ : MTHDINT/OBJ=OBJ\$ : MTHDINT MSRC\$ : MTHDINT/UPDATE=(ENHS : MTHDINT)**

## +-----+ ! Macro library statistics ! +-----+

## Macros defined

6

0259 AH-BT13A-SE  
VAX/VMS V4.0

DIGITAL EQUIPMENT CORPORATION  
CONFIDENTIAL AND PROPRIETARY

